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10/590,582	08/24/2006	Jeffrey Allen Cooper	PU030234	8702
24498 7590 12/02/2011 Robert D. Shedd, Patent Operations THOMSON Licensing LLC P.O. Box 5312 Princeton, NJ 08543-5312				
EXAMINER WILLIAMS, JEFFERY A				
ART UNIT		PAPER NUMBER		
2482				
NOTIFICATION DATE		DELIVERY MODE		
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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Office Action Summary**Application No.**

10/590,582

Applicant(s)

COOPER ET AL.

Examiner

JEFFERY WILLIAMS

Art Unit

2482

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ An election was made by the applicant in response to a restriction requirement set forth during the interview on ____; the restriction requirement and election have been incorporated into this action.
- 4) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 5) ☒ Claim(s) 1-25 is/are pending in the application.
- 5a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 6) ☐ Claim(s) ____ is/are allowed.
- 7) ☒ Claim(s) 1-25 is/are rejected.
- 8) ☐ Claim(s) ____ is/are objected to.
- 9) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 10) ☐ The specification is objected to by the Examiner.
- 11) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 12) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☒ Some * c) ☐ None of:
- 1. ☒ Certified copies of the priority documents have been received.
 - 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 - 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)

- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____.
- 5) ☐ Notice of Informal Patent Application

6) ☐ Other: ____.

Paper No(s)/Mail Date ____.

Response to Arguments

1. Applicant's arguments, filed 9/21/2011, with respect to the 112 second paragraph rejection of claim 23 have been fully considered and are persuasive. The 112 second paragraph of claim 23 has been withdrawn.
2. Applicant's arguments filed 9/21/2011, with respect to claims 1-5, 10-12, 14-17, and 22-24 have been fully considered but they are not persuasive.

On page 8 of the applicant's arguments remarks, the applicant argues that the prior art, Ishizuki et al. (Ishizuka) (US 2004/0042554), fails to teach the limitations of claim 1, and that Ishizuki only teaches one level of encoding as opposed to two levels of encoding, the first being a real time, low complexity compressor, the second being a non real time high complexity compressor.

The examiner respectfully disagrees. In Fig. 5, Ishizuka teaches a first level of encoding, MPEG2 Encoder (6A), and a second level of encoding, NTSC Encoder (36). Ishizuki further teaches the first level of encoding is performed on video input in real time [0087], and the second encoder receives and outputs data at appropriate times (non-real time), in order to prevent the underflow and overflow condition [0090]. While Ishizuka does not explicitly state the first compressor compressed the video stream into a low complexity encoded bit stream and the second compressor encodes the low complexity bit stream into a high complexity bit stream, it can be reasonably interpreted that the first compressor outputs a low complexity bit stream since it compresses video

in real time and the second compressor outputs a high complexity bit stream since it compresses data in non real time in order to avoid the overflow and underflow condition.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 1-5, 10-12, 14-17, and 22-24 rejected under 35 U.S.C. 102(b) as being anticipated by Ishizuki et al. (US 2004/0042554).

Regarding **claim 1**, Ishizuka discloses an apparatus for compressing media content (see pg. 1, [0003], Ins. 15-16) in an electronic device having a video capture device for capturing the video content (see pg. 5 [0088]; digital video (DV) stream), comprising:

a real-time, Low Complexity (LC) video compressor for compressing the video content into an LC encoded bit stream in real-time (see pg. 5 [0087], Ins. 23-25); and

a non-real-time High Complexity (HC) video compressor for generating an HC encoded bit stream from the LC encoded bit stream in non-real-time (see pg. 1 [0003], and pg. 5 [0090], Ins. 47-49).

Regarding **claim 2**, Ishizuka discloses the apparatus of claim 1, further comprising a memory device for storing the LC encoded bit stream therein (see pg. 5 [0087], Ins. 25-26).

Regarding **claim 3**, Ishizuka discloses the apparatus of claim 1, wherein the non-real-time HC video compressor begins generating the HC encoded bit stream while the video capture device is still capturing the video content and the real-time LC video compressor is still compressing the video content (see pg. 6 [0094]).

Regarding **claim 4**, Ishizuka discloses the apparatus of claim 1, wherein the electronic device is a mobile type of device, being one of a cellular telephone, a Personal Digital Assistant (PDA), a digital camera (see FIG. 5; "from camera" and pg. 5 [0086], Ins. 16-19), and a camcorder.

Regarding **claim 5**, Ishizuka discloses the apparatus of claim 1, wherein the electronic device is a Personal Video Recorder (PVR) (see FIG. 5; "from camera" and pg. 5 [0086], Ins. 16-19. A camera and digital video input device can be reasonably interpreted to be a PVR), and the real-time LC video compressor compresses the video content into the LC encoded bit stream in real-time (see pg. 5 [0087], Ins. 23-25) so as to meet any real-time requirements of the video content, while said non-real-time HC video compressor generates the HC encoded bit stream from the LC encoded bit stream in non-real-time (see pg. 1 [0003] and pg. 5 [0090], Ins. 47-49) so as to reduce storage requirements of the underlying video content).

Regarding **claim 10**, Ishizuka discloses the apparatus of claim 1, wherein the non-real-time HC video compressor generates the HC encoded bit stream from the LC

encoded bit stream (see pg. 5 [0090], Ins. 47-49) so as to minimize bandwidth consumption in a transmission of the HC encoded bit stream from the electronic device in comparison to a transmission of the LC encoded bit stream.

Regarding **claim 11**, Ishizuki discloses the apparatus of claim 1, wherein said real-time, LC video compressor compresses the video content into the LC encoded bit stream (see pg. 5 [0090], Ins. 47-49) so as to increase an amount of the video content that can be immediately stored subsequent to capture.

Regarding **claim 12**, Ishizuka discloses the apparatus of claim 1, wherein said electronic device is further capable of capturing audio content (see FIG. 5, from microphone), and said apparatus further comprises:

a real-time LC audio compressor for compressing the audio content into another LC encoded bit stream that corresponds to the audio content (see pg. 5 [0088]);
and

a non-real-time HC audio compressor for generating another HC encoded bit stream from the other LC encoded bit stream corresponding to the audio content (see pg. 5 [0091], Ins. 54-56).

Regarding **claim 14**, the limitations of claim 14 are rejected in the analysis of claim 1, and claim 14 is rejected on that basis.

Regarding **claim 15**, the limitations of claim 15 are rejected in the analysis of claim 3, and claim 15 is rejected on that basis.

Regarding **claim 16**, the limitations of claim 16 are rejected in the analysis of claim 4, and claim 16 is rejected on that basis.

Regarding **claim 17**, the limitations of claim 17 are rejected in the analysis of claim 5, and claim 17 is rejected on that basis.

Regarding **claim 22**, the limitations of claim 22 are rejected in the analysis of claim 10, and claim 22 is rejected on that basis.

Regarding **claim 23**, the limitations of claim 23 are rejected in the analysis of claim 11, and claim 23 is rejected on that basis.

Regarding **claim 24**, the limitations of claim 24 are rejected in the analysis of claim 12, and claim 24 is rejected on that basis.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

6. Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Ishizuka et al. (2004/0042554) in view of Lin et al. (US 2005/0169377).

Regarding **claim 6**, Ishizuka et al. discloses the apparatus of claim 1. Ishizuka also discloses the real-time and non –real time aspects of the present invention.

Ishizuka et. al is silent about the HC video compressor is capable of reusing at least a portion of the LC encoded bit stream so as to avoid having to again encode the at least a portion of the LC encoded bit stream to generate the HC encoded bit stream.

Lin et al. from the same or similar fields of endeavor discloses the HC video compressor is capable of reusing at least a portion of the LC encoded bit stream so as to avoid having to again encode the at least a portion of the LC encoded bit stream to generate the HC encoded bit stream (see 1 [0005], Ins. 61-64).

It would have been obvious to one of ordinary skill in the art at the time of the invention to reuse at least a portion of the LC encoded bit stream so as to avoid having to again encode the at least a portion of the LC encoded bit stream to generate the HC encoded bit stream, as disclosed by Lin et. al, at the seconds encoding step of the transcoder disclosed by Ishizuka, to reduce the computational complexity of the transcoder.

Claims 7-9, and 18-21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ishizuka et al. (2004/0042554) in view of Richardson (H.264 and MPEG-4 Video Compression).

Regarding **claim 7**, Ishizuka et al discloses the apparatus of claim 1. Ishizuka also discloses the real-time and non –real time aspects of the present invention.

Ishizuka is silent about the LC video compressor compresses the video content into Intra (I) frame types of Motion Picture Experts Group 4-part 10.

Richardson from the same or similar fields of endeavor discloses the LC video compressor compresses the video content into Intra (I) frame types of Motion Picture

Experts Group 4-part 10 (see pg. 164 Table 6.1 H.264 slices and section 6.3.5 Slices).

The present invention merely discloses H.264 encoding.

It would have been obvious to one of ordinary skill in the art at the time of the invention to design the LC video compressor, disclosed by Ishizuka, to compress the video content into Intra (I) frame types of Motion Picture Experts Group 4-part 10, disclosed by Richardson to reduce the HC encoding time.

Regarding **claim 8**, Ishizuka et al. discloses the apparatus of claim 7. Ishizuka also discloses the real-time and non-real time aspects of the present invention.

Ishizuka is silent about the HC video compressor generates the HC encoded bit stream as I, forward Predictive (P), and Bi-predictive (B) frame types of the Motion Picture Experts Group 4-part 10.

Richardson from the same or similar fields of endeavor discloses the HC video compressor generates the HC encoded bit stream as I, forward Predictive (P), and Bi-predictive (B) frame types of the Motion Picture Experts Group 4-part 10 (see pg. 164 Table 6.1 H.264 slices and section 6.3.5 Slices). The present invention merely discloses H.264 encoding.

It would have been obvious to one of ordinary skill in the art at the time of the invention to design the LC video compressor, disclosed by Ishizuka, to generate the HC encoded bit stream as I, forward Predictive (P), and Bi-predictive (B) frame types of the Motion Picture Experts Group 4-part 10, as disclosed by Richardson, for better compression of video images.

Regarding **claim 9**, Ishizuka discloses the apparatus of claim 8. Ishizuka also discloses the real-time and non –real time aspects of the present invention.

Ishizuka is silent about the HC video compressor is capable of reusing the I frame types of the LC encoded bit stream so as to avoid having to again encode the I frame types of the LC encoded bit stream to generate the HC encoded bit stream.

Richardson from the same or similar fields of endeavor discloses the HC video compressor is capable of reusing the I frame types of the LC encoded bit stream so as to avoid having to again encode the I frame types of the LC encoded bit stream to generate the HC encoded bit stream (see pg. 159 para. 4; a P slice may contain P and I macroblock types and a B slice may contain B and I macroblock types. The I macroblock types are used to encode the P and B macroblock types). The present invention merely discloses H.264 encoding.

It would have been obvious to one of ordinary skill in the art at the time of the invention to reuse the I frame types of the LC encoded bit stream so as to avoid having to again encode the I frame types of the LC encoded bit stream to generate the HC encoded bit stream in order to provide power and storage efficiency for mobile and other devices.

Regarding **claim 18**, the limitations of claim 18 are rejected in the analysis of claim 6, and claim 18 is rejected on that basis.

Regarding **claim 19**, the limitations of claim 19 are rejected in the analysis of claim 7, and claim 19 is rejected on that basis.

Regarding **claim 20**, the limitations of claim 20 are rejected in the analysis of claim 8, and claim 20 is rejected on that basis.

Regarding **claim 21**, the limitations of claim 21 are rejected in the analysis of claim 9, and claim 21 is rejected on that basis.

7. Claims 13 and 25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ishizuka et al. (2004/0042554) in view of Henry et al. (US 7,420,482).

Regarding **claim 13**, Ishizuka discloses the apparatus of claim 12. Ishizuka also discloses the real-time and non –real time aspects of the present invention.

Ishizuka is silent about the LC audio compressor compresses the audio content using Moving Picture Experts Group Layer-3 Audio (MP3), and the non-real-time audio compressor generates the other HC encoded bit stream from the other LC encoded bit stream using MP3-Pro.

Henry et al. from the same or similar fields of endeavor discloses the real-time LC audio compressor compresses the audio content using Moving Picture Experts Group Layer-3 Audio (MP3), and the non-real-time audio compressor generates the other HC encoded bit stream from the other LC encoded bit stream using MP3-Pro (see Abstract and column 8 lns. 2-3. Henry teaches transcoding from a first encoding format to a second encoding format. Henry also teaches the encoding formats are for example, MPEG 1, MPEG 2 (AC3), MP3, MP3 Pro).

It would have been obvious to one of ordinary skill in the art at the time of the invention enable the real-time LC audio compressor to compress the audio content using Moving Picture Experts Group Layer-3 Audio (MP3), and the non-real-time audio compressor generates the other HC encoded bit stream from the other LC encoded bit stream using MP3-Pro in order to provide power and storage efficiency for mobile and other devices.

Regarding **claim 25**, the limitations of claim 25 are rejected in the analysis of claim 13, and claim 25 is rejected on that basis.

Conclusion

8. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

- Gordon et al. (US 7,096,487)

9. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of

the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to JEFFERY WILLIAMS whose telephone number is (571)270-7579. The examiner can normally be reached on M-F 8am-5pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Christopher Kelley can be reached on (571)272-7331. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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